

What is claimed is:

1. A DNA selected from the group consisting of:
  - (a) DNA comprising the polynucleotide of SEQ ID NO:1;
  - (b) DNA comprising a polynucleotide encoding the polypeptide of SEQ ID NO:2;
  - (c) DNA comprising a polynucleotide encoding an amino acid sequence that is at least 80% identical to the amino acid sequence of SEQ ID NO:2; and,
  - (d) DNA comprising a polynucleotide encoding a fragment of the polypeptide of SEQ ID NO:2, wherein the fragment binds an IL-1 receptor family member.
  - (e) DNA that is the complement of DNA that is capable of hybridization to a DNA of (a)-(d) under conditions of moderate stringency and which encodes polypeptides of the invention;
  - (f) DNA which is degenerate, as a result of the genetic code, to a DNA defined in (a)-(e).
2. DNA comprising nucleotide residues 112-585 of SEQ ID NO:1.
3. DNA comprising a polynucleotide that encodes the polypeptide of SEQ ID NO:2.
4. An expression vector comprising a DNA of claim 1.
5. An expression vector comprising a DNA of claim 2.
6. An expression vector comprising a DNA of claim 3.
7. A host cell comprising the vector of claim 4.
8. A host cell comprising the vector of claim 5.
9. A host cell comprising the vector of claim 6.
10. A process for preparing a polypeptide, the process comprising culturing a host cell of claim 7 under conditions that promote expression of the polypeptide.
11. A polypeptide selected from the group consisting of:
  - (a) a polypeptide comprising the polypeptide of SEQ ID NO:2;
  - (b) a polypeptide comprising a polypeptide that is at least 80% identical to the polypeptide of SEQ ID NO:2; and
  - (c) a fragment of a polypeptide of (a) or (b), wherein said fragment is capable of binding IL-1 receptor family members.

12. A polypeptide encoded by the DNA of claim 1.
13. A polypeptide encoded by the DNA of claim 2.
14. A polypeptide comprising the amino acid sequence of SEQ ID NO:2.
15. An antibody that is immunoreactive with a polypeptide of claim 11.

16. A method for screening a plurality of molecules to determine whether the molecules affect an activity of an IL-1 eta polypeptide, the method comprising:

- a) contacting a molecule and the IL-1 eta polypeptide with cells capable of exhibiting the activity when contacted with IL-1 eta; and,
- b) analyzing the cells for the occurrence of the activity, wherein if the activity observed in the presence of the molecule differs from the activity that is observed when the molecule is absent, the molecule affects the activity of the IL-1 epsilon,

and wherein, the IL-1 eta polypeptide comprises a polypeptide selected from the group consisting of the polypeptide of SEQ ID NO:2, polypeptides encoded by DNAs that hybridize under moderately stringent conditions to the DNA of SEQ ID NO:1, a polypeptide comprising a polypeptide that is at least 80% identical to the polypeptide of SEQ ID NO:2, and fragments of the aforesaid polypeptides, wherein the polypeptides exhibit a biological activity of IL-1 eta.

17. A combination method for screening a plurality of molecules to determine whether the molecules affect a biological activity of an IL-1 eta polypeptide, the method comprising:

- a) selecting a molecule that affects an ability of IL-1 eta to bind an IL-1 receptor family member;
- b) contacting the selected molecule and an IL-1 eta polypeptide with cells capable of exhibiting a biological activity when contacted with IL-1 eta; and
- c) analyzing the cells for the occurrence of the biological activity, wherein if the biological activity observed in the presence of the selected test compound differs from the biological activity that is observed when the selected test compound is absent, the selected test compound affects the biological activity of IL-1 eta,

and wherein, the IL-1 eta polypeptide comprises a polypeptide selected from the group consisting of the polypeptide of SEQ ID NO:2, polypeptides encoded by DNAs that hybridize under moderately stringent conditions to the DNA of SEQ ID NO:1, a polypeptide comprising a polypeptide that is at least 80% identical to the polypeptide of SEQ ID NO:2, and fragments of the aforesaid polypeptides, wherein the polypeptides exhibit a biological activity of IL-1 eta.

18. A molecule identified according to claim 16, wherein the molecule is an antagonist of IL-1 eta.

- 19. A molecule identified according to claim 17, wherein the molecule is an antagonist of IL-1 eta.
- 20. A method of treating an inflammatory and/or autoimmune disease, the method comprising the step of administering an IL-1 eta antagonist according to claim 18 to a subject afflicted with the inflammatory and/or autoimmune disease.
- 21. A method of treating an inflammatory and/or autoimmune disease, the method comprising the step of administering an IL-1 eta antagonist according to claim 18 to a subject afflicted with the inflammatory and/or autoimmune disease.
- 22. The method of claim 20, wherein the wherein inflammatory and/or autoimmune disease is selected from the group consisting of: ankylosing spondylitis, Crohn's Disease, ulcerative colitis, psoriatic arthritis, asthma, infection-associated airway hyperactivity, granulomatous lung disease, emphysema, chronic fibrosing alveolitis, acute hyperoxic lung damage, multiple sclerosis, chronic inflammatory demyelinating polyneuropathy, stroke, acute myocardial infarction, unstable angina, arterial restenosis, congestive heart failure, osteoporosis, osteoarthritis, glomerulonephritis, uveitis, Behçet's syndrome, sepsis, acute pancreatitis, diabetes, endometriosis, periodontal disease, heat stroke, glaucoma, multiple myeloma, myeloid leukemia, and combinations thereof.
- 23. The method of claim 20, wherein the antagonist blocks an inflammatory and/or autoimmune disease selected from the group consisting of rheumatoid arthritis and inflammatory bowel disease.